

ABSTRACT

The transmission secondary electron emitter according to the present invention comprises a secondary electron emitting layer 1 made of diamond or a material containing diamond as a main component, a supporting frame 21 reinforcing the mechanical strength of the secondary electron emitting layer 1, a first electrode 31 formed on the surface of incidence of the secondary electron emitting layer 1, and a second electrode 32 formed on the surface of emission of the secondary electron emitting layer 1. A voltage is applied between the surfaces of the incidence and the emission of the secondary electron emitting layer 1 to form an electric field in the secondary electron emitting layer 1. When the incidence of primary electrons into the secondary electron emitting layer 1 generates secondary electrons in the secondary electron emitting layer 1, the secondary electrons are accelerated in the direction to the surface of the emission by the electric field formed in the secondary electron emitting layer 1, and emitted out of the transmission secondary electron emitter. Therefore, a transmission secondary electron emitter capable of efficiently emitting the secondary electrons by the incidence of the primary electrons, and an electron tube using the same can be achieved.